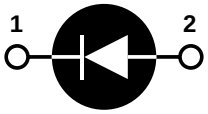
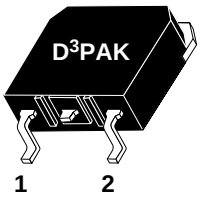


1 - Cathode
2 - Anode
Back of Case - Cathode



ADVANCED POWER TECHNOLOGY®

APT30D30S 300V 30A

ULTRAFAST SOFT RECOVERY RECTIFIER DIODE

PRODUCT APPLICATIONS	PRODUCT FEATURES	PRODUCT BENEFITS
• Anti-Parallel Diode -Switchmode Power Supply -Inverters	• Ultrafast Recovery Times	• Low Losses
• Free Wheeling Diode -Motor Controllers -Converters	• Soft Recovery Characteristics	• Low Noise Switching
• Snubber Diode	• Surface Mount D³PAK	• Cooler Operation
• Uninterruptible Power Supply (UPS)	• Low Forward Voltage	• Higher Reliability Systems
• Induction Heating	• High Blocking Voltage	• Increased System Power Density
• High Speed Rectifiers	• Low Leakage Current	

MAXIMUM RATINGS All Ratings: T_C = 25°C unless otherwise specified.

Symbol	Characteristic / Test Conditions	APT30D30S	UNIT
V_R	Maximum D.C. Reverse Voltage	300	Volts
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
V_{RWM}	Maximum Working Peak Reverse Voltage		
I_F(AV)	Maximum Average Forward Current (T_C = 110°C, Duty Cycle = 0.5)	30	Amps
I_F(RMS)	RMS Forward Current	70	
I_{FSM}	Non-Repetitive Forward Surge Current (T_J = 45°C, 8.3ms)	320	
T_J,T_{STG}	Operating and StorageTemperature Range	-55 to 150	°C
T_L	Lead Temperature: 0.063" from Case for 10 Sec.	300	

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions		MIN	TYP	MAX	UNIT
V_F	Maximum Forward Voltage	I_F = 30A			1.4	Volts
		I_F = 60A		1.4		
		I_F = 30A, T_J = 150°C			1.2	
I_{RM}	Maximum Reverse Leakage Current	V_R = V_R Rated			250	µA
		V_R = V_R Rated, T_J = 125°C			500	
C_T	Junction Capacitance, V_R = 150V			70		pF
L_S	Series Inductance (Lead to Lead 5mm from Base)			10		nH

APT Website - http://www.advancedpower.com

USA 405 S.W. Columbia Street Bend, Oregon 97702-1035 Phone: (541) 382-8028 FAX: (541) 388-0364
EUROPE Chemin de Magret F-33700 Merignac - France Phone: (33) 5 57 92 15 15 FAX: (33) 5 56 47 97 61

053-4054 Rev- 6-2001

DYNAMIC CHARACTERISTICS

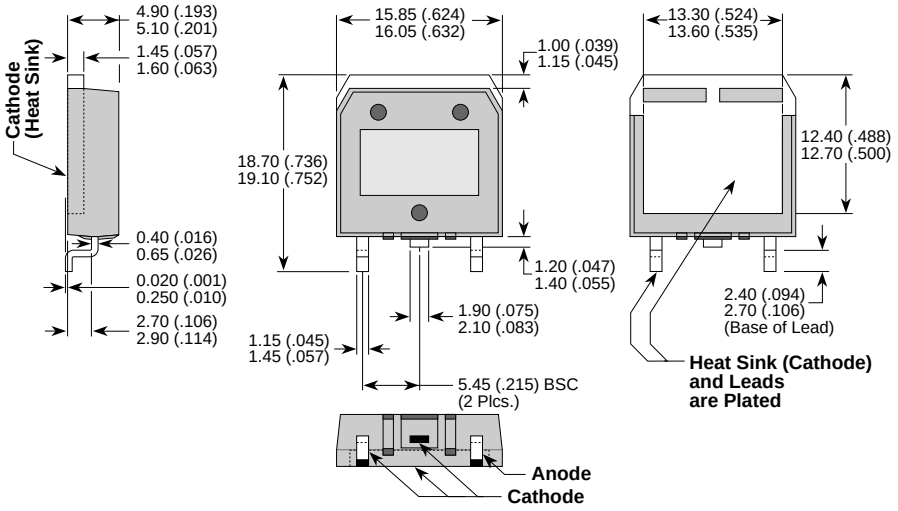
Symbol	Characteristic (Single Diode)		MIN	TYP	MAX	UNIT
t_{rr1}	Reverse Recovery Time, I_F = 1.0A, di_F/dt = -15A/µs, V_R = 30V, T_J = 25°C			35	TBD	ns
t_{rr2}	Reverse Recovery Time	T_J = 25°C		40		
t_{rr3}	I_F = 30A, di_F/dt = -240A/µs, V_R = 180V	T_J = 100°C		60		
t_{fr1}	Forward Recovery Time	T_J = 25°C		162		
t_{fr2}	I_F = 30A, di_F/dt = 240A/µs, V_R = 180V	T_J = 100°C		162		
I_{RRM1}	Reverse Recovery Current	T_J = 25°C		5	9	Amps
I_{RRM2}	I_F = 30A, di_F/dt = -240A/µs, V_R = 180V	T_J = 100°C		8	16	
Q_{rr1}	Recovery Charge	T_J = 25°C		110		nC
Q_{rr2}	I_F = 30A, di_F/dt = -240A/µs, V_R = 180V	T_J = 100°C		280		
V_{fr1}	Forward Recovery Voltage	T_J = 25°C		2.9		Volts
V_{fr2}	I_F = 30A, di_F/dt = 240A/µs, V_R = 180V	T_J = 100°C		2.9		
diM/dt	Rate of Fall of Recovery Current	T_J = 25°C		400		A/µs
	I_F = 30A, di_F/dt = -240A/µs, V_R = 180V	T_J = 100°C		700		

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions (Single Diode)	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			0.90	°C/W
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance			40	
W_T	Package Weight		0.22		oz
			6.1		gm

APT Reserves the right to change, without notice, the specifications and information contained herein.

D³PAK Package Outline



Dimensions in Millimeters (Inches)

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